Claims

1. (Original) A method of converting an analog circuit from a source technology to a target technology, comprising:

receiving the analog circuit in the source technology;

converting the analog circuit from the source technology to the target technology by analyzing the analog circuit at the device level and resizing the circuit at the device level based on the analysis; and

outputting the analog circuit in the target technology.

2. (Currently amended) The method of claim 1, wherein analyzing the analog circuit at the device level ~~includes~~comprises determining a mode of operation for a transistor in the circuit and the resizing of the transistor is based on the mode of operation.

3. (Currently amended) The method of claim 1, wherein analyzing the analog circuit at the device level ~~includes~~comprises determining node voltages coupled to a device and the resizing of the device is based on the determined node voltages.

4. (Currently amended) The method of claim 1, wherein analyzing the analog circuit at the device level ~~includes~~comprises:

determining whether a first transistor is in an off mode;

if the first transistor is not off, analyzing the first transistor;

if the first transistor is off, analyzing a second transistor symmetrical to the first transistor and propagating the results of the symmetrical transistor to the first transistor.

5. (Currently amended) The method of claim 1, wherein analyzing the analog circuit at the device level ~~includes~~comprises analyzing individual electrical devices, which are one or more of the following types: transistors, resistors, and capacitors.

6. (Currently amended) The method of claim 1, further ~~including~~comprising performing a dc simulation of the analog circuit in the source technology to determine electrical parameters of the analog circuit and wherein the resizing is based on the determined electrical parameters.

7. (Currently amended) The method of claim 1, further comprising:

_____identifying circuit blocks within the analog circuit;

associating transistors with circuit blocks; and

selecting a next transistor to resize based, in part, on the circuit block.

8. (Currently amended) The method of claim 1, wherein analyzing the analog circuit includescomprises analyzing node voltages coupled to a resistor and resizing the resistor based on the node voltages.

9. (Currently amended) The method of claim 1, further includingcomprising receiving, on a server computer, a circuit description from a client computer over a distributed network, resizing the description on the server computer, and returning the resized results to the client computer over the distributed network.

10. (Currently amended) The method of claim 1, wherein the resizing of a transistor includescomprises checking that changes to the output conductance and parasitic capacitance of the transistor remain within a certain accuracy limit.

11. (Original) A circuit retargeting system to convert an analog circuit from a source technology to a target technology, comprising:

a design extraction engine that determines electrical parameters associated with the analog circuit; and

a resizing engine coupled to the design extraction engine that resizes individual devices within the analog circuit using the determined electrical parameters to convert the analog circuit from the source technology to the target technology.

12. (Currently amended) The circuit retargeting system of claim 11, further includingcomprising an optimization engine coupled to the resizing engine, the optimization engine further changing the resized analog circuit taking into account timing issues and constraints.

13. (Currently amended) The circuit retargeting system of claim 11, further ~~including~~comprising a simulator coupled to the design extraction engine used to obtain the electrical parameters, ~~including~~comprising voltage levels on nodes within the analog circuit.

14. (Currently amended) The circuit retargeting system of claim 11, further ~~including~~comprising a source technology parameter database and a target technology parameter database both coupled to the resizing engine.

15. (Currently amended) The circuit retargeting system of claim 11, further ~~including~~comprising a network ~~including~~comprising a client computer coupled to a server computer and wherein the retargeting system is distributed over the network.

16. (Original) The circuit retargeting system of claim 11, wherein the server computer receives the analog circuit in the source technology, resizes the analog circuit to the target technology, and sends the resized circuit to the client computer.

17. (Original) The circuit retargeting system of claim 11, wherein the circuit is converted from the source technology to the target technology without any performance evaluation of the overall circuit.

18. (Original) A circuit retargeting system to convert an analog circuit from a source technology to a target technology, comprising:

means for receiving the analog circuit in the source technology;

means for converting the analog circuit from the source technology to the target technology by analyzing the analog circuit at the device level and resizing the circuit at the device level based on the analysis; and

means for outputting the analog circuit in the target technology.